0Y 0
0Y/10/200
OIPE

RAW SEQUENCE LISTING   DATE: 04/02/2001
PATENT APPLICATION: US/09/808,898   TIME: 10:54:56

          Input Set : A:\128seq.001
          Output Set: N:\CRF3\04022001\I808898.raw

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   3 <110> APPLICANT: Bryan, Bruce
   4        Szent-Gyorgyi, Christopher
   5        Szczepaniak, William
   8 <120> TITLE OF INVENTION: RENILLA RENIFORMIS FLOURESCENT PROTEINS, NUCLEIC ACIDS ENCODING THE
   9        FLOURESCENT PROTEINS AND THE USE THEREOF IN DIAGNOSTICS, HIGH THROUGHPUT
  10        SCREENING AND NOVELTY ITEMS
  12 <130> FILE REFERENCE: 24729-128
C--> 14 <140> CURRENT APPLICATION NUMBER: US/09/808,898
C--> 15 <141> CURRENT FILING DATE: 2001-03-15
  17 <150> PRIOR APPLICATION NUMBER: 60/189,691
  18 <151> PRIOR FILING DATE: 2000-03-15
  20 <150> PRIOR APPLICATION NUMBER: 09/277,716
  21 <151> PRIOR FILING DATE: 1999-03-26
  23 <150> PRIOR APPLICATION NUMBER: 08/757,046
  24 <151> PRIOR FILING DATE: 1996-11-25
  26 <150> PRIOR APPLICATION NUMBER: 08/597,274
  27 <151> PRIOR FILING DATE: 1996-02-06
  29 <150> PRIOR APPLICATION NUMBER: 08/908,909
  30 <151> PRIOR FILING DATE: 1997-08-08
  32 <150> PRIOR APPLICATION NUMBER: 08/990,103
  33 <151> PRIOR FILING DATE: 1997-12-12
  35 <160> NUMBER OF SEQ ID NOS: 33
  37 <170> SOFTWARE: FastSEQ for Windows Version 4.0
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  40 <211> LENGTH: 1196
  41 <212> TYPE: DNA
  42 <213> ORGANISM: Renilla reniformis
  44 <220> FEATURE:
  45 <221> NAME/KEY: CDS
  46 <222> LOCATION: (1)...(942)
  47 <223> OTHER INFORMATION: Renilla reniformas luciferase
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  52 1                5                  10                  15
  54 atg ata act ggt ccg cag tgg tgg gcc aga tgt aaa caa atg aat gtt          96
  55 Met Ile Thr Gly Pro Gln Trp Trp Ala Arg Cys Lys Gln Met Asn Val
  56              20                  25                  30
  58 ctt gat tca ttt att aat tat tat gat tca gaa aaa cat gca gaa aat          144
  59 Leu Asp Ser Phe Ile Asn Tyr Tyr Asp Ser Glu Lys His Ala Glu Asn
  60              35                  40                  45
  62 gct gtt att ttt tta cat ggt aac gcg gcc tct tct tat tta tgg cga          192
  63 Ala Val Ile Phe Leu His Gly Asn Ala Ala Ser Ser Tyr Leu Trp Arg
  64          50                  55                  60
  66 cat gtt gtg cca cat att gag cca gta gcg cgg tgt att ata cca gat          240
  67 His Val Val Pro His Ile Glu Pro Val Ala Arg Cys Ile Ile Pro Asp
  68 65                  70                  75                  80
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ENTERED

RAW SEQUENCE LISTING   DATE: 04/02/2001
PATENT APPLICATION: US/09/808,898   TIME: 10:54:56

Input Set : A:\128seq.001
Output Set: N:\CRF3\04022001\I808898.raw

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70 ctt att ggt atg ggc aaa tca ggc aaa tct ggt aat ggt tct tat agg     288
71 Leu Ile Gly Met Gly Lys Ser Gly Lys Ser Gly Asn Gly Ser Tyr Arg
72              85                  90                  95
74 tta ctt gat cat tac aaa tat ctt act gca tgg ttg aac ttc tta att     336
75 Leu Leu Asp His Tyr Lys Tyr Leu Thr Ala Trp Leu Asn Phe Leu Ile
76             100             105             110
78 tac caa aga aga tca ttt ttt gtc ggc cat gat tgg ggt gct tgt ttg     384
79 Tyr Gln Arg Arg Ser Phe Phe Val Gly His Asp Trp Gly Ala Cys Leu
80         115             120             125
82 gca ttt cat tat agc tat gag cat caa gat aag atc aaa gca ata gtt     432
83 Ala Phe His Tyr Ser Tyr Glu His Gln Asp Lys Ile Lys Ala Ile Val
84     130             135             140
86 cac gct gaa agt gta gta gat gtg att gaa tca tgg gat gaa tgg cct     480
87 His Ala Glu Ser Val Val Asp Val Ile Glu Ser Trp Asp Glu Trp Pro
88 145             150             155             160
90 gat att gaa gaa gat att gcg ttg atc aaa tct gaa gaa gga gaa aaa     528
91 Asp Ile Glu Glu Asp Ile Ala Leu Ile Lys Ser Glu Glu Gly Glu Lys
92             165             170             175
94 atg gtt ttg gag aat aac ttc ttc gtg gaa acc atg ttg cca tca aaa     576
95 Met Val Leu Glu Asn Asn Phe Phe Val Glu Thr Met Leu Pro Ser Lys
96             180             185             190
98 atc atg aga aag tta gaa cca gaa gaa ttt gca gca tat ctt gaa cca     624
99 Ile Met Arg Lys Leu Glu Pro Glu Glu Phe Ala Ala Tyr Leu Glu Pro
100         195             200             205
102 ttc aaa gag aaa ggt gaa gtt cgt cgt cca aca tta tca tgg cct cgt    672
103 Phe Lys Glu Lys Gly Glu Val Arg Arg Pro Thr Leu Ser Trp Pro Arg
104     210             215             220
106 gaa atc ccg tta gta aaa ggt ggt aaa cct gac gtt gta caa att gtt    720
107 Glu Ile Pro Leu Val Lys Gly Gly Lys Pro Asp Val Val Gln Ile Val
108 225             230             235             240
110 agg aat tat aat gct tat cta cgt gca agt gat gat tta cca aaa atg    768
111 Arg Asn Tyr Asn Ala Tyr Leu Arg Ala Ser Asp Asp Leu Pro Lys Met
112             245             250             255
114 ttt att gaa tcg gat cca gga ttc ttt tcc aat gct att gtt gaa ggc    816
115 Phe Ile Glu Ser Asp Pro Gly Phe Phe Ser Asn Ala Ile Val Glu Gly
116             260             265             270
118 gcc aag aag ttt cct aat act gaa ttt gtc aaa gta aaa ggt ctt cat    864
119 Ala Lys Lys Phe Pro Asn Thr Glu Phe Val Lys Val Lys Gly Leu His
120         275             280             285
122 ttt tcg caa gaa gat gca cct gat gaa atg gga aaa tat atc aaa tcg    912
123 Phe Ser Gln Glu Asp Ala Pro Asp Glu Met Gly Lys Tyr Ile Lys Ser
124     290             295             300
126 ttc gtt gag cga gtt ctc aaa aat gaa caa taattacttt ggttttttat     962
127 Phe Val Glu Arg Val Leu Lys Asn Glu Gln
128 305             310
130 ttacatttt cccgggttta ataatataaa tgtcattttc aacaatttta ttttaactga  1022
131 atatttcaca gggaacattc atatatgttg attaatttag ctcgaacttt actctgtcat  1082
132 atcattttgg aatattacct ctttcaatga aactttataa acagtggttc aattaattaa  1142
133 tatatattat aattacattt gttatgtaat aaactcggtt ttattataaa aaaa         1196
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RAW SEQUENCE LISTING   DATE: 04/02/2001
PATENT APPLICATION: US/09/808,898   TIME: 10:54:56

Input Set : A:\128seq.001
Output Set: N:\CRF3\04022001\I808898.raw

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138 <211> LENGTH: 1822
139 <212> TYPE: DNA
140 <213> ORGANISM: Cypridina hilagendorfii luciferase
142 <220> FEATURE:
143 <221> NAME/KEY: CDS
144 <222> LOCATION: (1)...(1665)
145 <223> OTHER INFORMATION: Cypridina hilgendorfii luciferase
147 <400> SEQUENCE: 2
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150 1               5                   10                  15
152 aac tgc cag gat gca tgt cct gta gaa gct gaa gca ccg tca agt aca        96
153 Asn Cys Gln Asp Ala Cys Pro Val Glu Ala Glu Ala Pro Ser Ser Thr
154             20                  25                  30
156 cca aca gtc cca aca tct tgt gaa gct aaa gaa gga gaa tgt atc gat       144
157 Pro Thr Val Pro Thr Ser Cys Glu Ala Lys Glu Gly Glu Cys Ile Asp
158             35                  40                  45
160 acc aga tgc gca aca tgt aaa cga gac ata cta tca gac gga ctg tgt       192
161 Thr Arg Cys Ala Thr Cys Lys Arg Asp Ile Leu Ser Asp Gly Leu Cys
162     50                  55                  60
164 gaa aat aaa cca ggg aag aca tgc tgt aga atg tgc cag tat gta att       240
165 Glu Asn Lys Pro Gly Lys Thr Cys Cys Arg Met Cys Gln Tyr Val Ile
166  65                  70                  75                  80
168 gaa tcc aga gta gaa gct gct gga tat ttt aga acg ttt tac gcc aaa       288
169 Glu Ser Arg Val Glu Ala Ala Gly Tyr Phe Arg Thr Phe Tyr Ala Lys
170                 85                  90                  95
172 aga ttt aat ttt cag gaa cct ggt aaa tat gtg ctg gct cga gga acc       336
173 Arg Phe Asn Phe Gln Glu Pro Gly Lys Tyr Val Leu Ala Arg Gly Thr
174             100                 105                 110
176 aag ggt ggc gac tgg tct gta acc ctc acc atg gag aat cta gat gga       384
177 Lys Gly Gly Asp Trp Ser Val Thr Leu Thr Met Glu Asn Leu Asp Gly
178         115                 120                 125
180 cag aag gga gct gta ctg act aag aca aca ctg gag gta gta gga gac       432
181 Gln Lys Gly Ala Val Leu Thr Lys Thr Thr Leu Glu Val Val Gly Asp
182     130                 135                 140
184 gta ata gac att act caa gct act gca gat cct atc aca gtt aac gga       480
185 Val Ile Asp Ile Thr Gln Ala Thr Ala Asp Pro Ile Thr Val Asn Gly
186 145                 150                 155                 160
188 gga gct gac cca gtt atc gct aac ccg ttc aca att ggt gag gtg acc       528
189 Gly Ala Asp Pro Val Ile Ala Asn Pro Phe Thr Ile Gly Glu Val Thr
190             165                 170                 175
192 att gct gtt gtc gaa ata ccc ggc ttc aat att aca gtc atc gaa ttc       576
193 Ile Ala Val Val Glu Ile Pro Gly Phe Asn Ile Thr Val Ile Glu Phe
194             180                 185                 190
196 ttt aaa cta atc gtg ata gat att ctg gga gga aga tct gtg aga att       624
197 Phe Lys Leu Ile Val Ile Asp Ile Leu Gly Gly Arg Ser Val Arg Ile
198         195                 200                 205
200 gct cca gac aca gca aac aaa gga ctg ata tct ggt atc tgt ggt aat       672
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201 Ala Pro Asp Thr Ala Asn Lys Gly Leu Ile Ser Gly Ile Cys Gly Asn
202     210                 215                 220
204 ctg gag atg aat gac gct gat gac ttt act aca gac gca gat cag ctg     720
205 Leu Glu Met Asn Asp Ala Asp Asp Phe Thr Thr Asp Ala Asp Gln Leu
206 225                 230                 235                 240
208 gcg atc caa ccc aac ata aac aaa gag ttc gac ggc tgc cca ttc tac     768
209 Ala Ile Gln Pro Asn Ile Asn Lys Glu Phe Asp Gly Cys Pro Phe Tyr
210                 245                 250                 255
212 ggg aat cct tct gat atc gaa tac tgc aaa ggt ctc atg gag cca tac     816
213 Gly Asn Pro Ser Asp Ile Glu Tyr Cys Lys Gly Leu Met Glu Pro Tyr
214                 260                 265                 270
216 aga gct gta tgt cgt aac aat atc aac ttc tac tat tac act ctg tcc     864
217 Arg Ala Val Cys Arg Asn Asn Ile Asn Phe Tyr Tyr Tyr Thr Leu Ser
218         275                 280                 285
220 tgc gcc ttc gct tac tgt atg gga gga gaa gaa aga gct aaa cac gtc     912
221 Cys Ala Phe Ala Tyr Cys Met Gly Gly Glu Glu Arg Ala Lys His Val
222     290                 295                 300
224 ctt ttc gac tat gtt gag aca tgc gct gca ccg gaa acg aga gga acg     960
225 Leu Phe Asp Tyr Val Glu Thr Cys Ala Ala Pro Glu Thr Arg Gly Thr
226 305                 310                 315                 320
228 tgt gtt tta tca gga cat act ttc tat gac aca ttc gac aaa gcc aga     1008
229 Cys Val Leu Ser Gly His Thr Phe Tyr Asp Thr Phe Asp Lys Ala Arg
230                 325                 330                 335
232 tat caa ttc cag ggc cca tgc aaa gag ctt ctg atg gcc gca gac tgt     1056
233 Tyr Gln Phe Gln Gly Pro Cys Lys Glu Leu Leu Met Ala Ala Asp Cys
234             340                 345                 350
236 tac tgg aac aca tgg gat gta aag gtt tca cat aga gat gtt gag tca     1104
237 Tyr Trp Asn Thr Trp Asp Val Lys Val Ser His Arg Asp Val Glu Ser
238         355                 360                 365
240 tac act gag gta gag aaa gta aca atc agg aaa cag tca act gta gta     1152
241 Tyr Thr Glu Val Glu Lys Val Thr Ile Arg Lys Gln Ser Thr Val Val
242     370                 375                 380
244 gat ttg att gtg gat ggc aag cag gtc aag gtt gga gga gtg gat gta     1200
245 Asp Leu Ile Val Asp Gly Lys Gln Val Lys Val Gly Gly Val Asp Val
246 385                 390                 395                 400
248 tct atc ccg tac agt tct gag aac aca tcc ata tac tgg cag gat gga     1248
249 Ser Ile Pro Tyr Ser Ser Glu Asn Thr Ser Ile Tyr Trp Gln Asp Gly
250                 405                 410                 415
252 gac atc ctg acg acg gcc atc cta cct gaa gct ctt gtc gtt aag ttc     1296
253 Asp Ile Leu Thr Thr Ala Ile Leu Pro Glu Ala Leu Val Val Lys Phe
254             420                 425                 430
256 aac ttt aag cag ctc ctt gta gtt cat atc aga gat cca ttc gat gga     1344
257 Asn Phe Lys Gln Leu Leu Val Val His Ile Arg Asp Pro Phe Asp Gly
258         435                 440                 445
260 aag aca tgc ggc ata tgt ggt aac tat aat caa gat tca act gat gat     1392
261 Lys Thr Cys Gly Ile Cys Gly Asn Tyr Asn Gln Asp Ser Thr Asp Asp
262     450                 455                 460
264 ttc ttt gac gca gaa gga gca tgc gct ctg acc ccc aat ccc cca gga     1440
265 Phe Phe Asp Ala Glu Gly Ala Cys Ala Leu Thr Pro Asn Pro Pro Gly
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RAW SEQUENCE LISTING   DATE: 04/02/2001
PATENT APPLICATION: US/09/808,898 TIME: 10:54:56

Input Set : A:\128seq.001
Output Set: N:\CRF3\04022001\I808898.raw

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269 Cys Thr Glu Glu Gln Lys Pro Glu Ala Glu Arg Leu Cys Asn Ser Leu
270                  485                  490                  495
272 ttt gat agt tct atc gac gag aaa tgt aat gtc tgc tac aag cct gac        1536
273 Phe Asp Ser Ser Ile Asp Glu Lys Cys Asn Val Cys Tyr Lys Pro Asp
274                  500                  505                  510
276 cgt att gca cga tgt atg tac gag tat tgc ctg agg gga cag caa gga        1584
277 Arg Ile Ala Arg Cys Met Tyr Glu Tyr Cys Leu Arg Gly Gln Gln Gly
278          515                  520                  525
280 ttc tgt gac cat gct tgg gag ttc aaa aaa gaa tgc tac ata aag cat        1632
281 Phe Cys Asp His Ala Trp Glu Phe Lys Lys Glu Cys Tyr Ile Lys His
282      530                  535                  540
284 gga gac act cta gaa gta cca cct gaa tgc caa'taaatgaaca aagatacaga      1685
285 Gly Asp Thr Leu Glu Val Pro Pro Glu Cys Gln
286 545                  550                  555
288 agctaagact actacagcag aagataaaag agaagctgta gttcttcaaa aacagtatat      1745
289 tttgatgtac tcattgttta cttacataaa aataaattgt tattatcata acgtaaagaa      1805
290 aaaaaaaaaa aaaaaaa                                                     1822
293 <210> SEQ ID NO: 3
294 <211> LENGTH: 1644
295 <212> TYPE: DNA
296 <213> ORGANISM: Luciola cruciata
298 <220> FEATURE:
299 <221> NAME/KEY: CDS
300 <222> LOCATION: (1)...(1644)
301 <223> OTHER INFORMATION: Luciola cruciata luciferase
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306 1               5                  10                  15
308 ttt tac cct atc gaa gag gga tct gct gga aca caa tta cgc aaa tac         96
309 Phe Tyr Pro Ile Glu Glu Gly Ser Ala Gly Thr Gln Leu Arg Lys Tyr
310              20                  25                  30
312 atg gag cga tat gca aaa ctt ggc gca att gct ttt aca aat gca gtt        144
313 Met Glu Arg Tyr Ala Lys Leu Gly Ala Ile Ala Phe Thr Asn Ala Val
314          35                  40                  45
316 act ggt gtt gat tat tct tac gcc gaa tac ttg gag aaa tca tgt tgt        192
317 Thr Gly Val Asp Tyr Ser Tyr Ala Glu Tyr Leu Glu Lys Ser Cys Cys
318      50                  55                  60
320 cta gga aaa gct ttg caa aat tat ggt ttg gtt gtt gat ggc aga att        240
321 Leu Gly Lys Ala Leu Gln Asn Tyr Gly Leu Val Val Asp Gly Arg Ile
322 65                  70                  75                  80
324 gcg tta tgc agt gaa aac tgt gaa gaa ttt ttt att cct gta ata gcc        288
325 Ala Leu Cys Ser Glu Asn Cys Glu Glu Phe Phe Ile Pro Val Ile Ala
326              85                  90                  95
328 gga ctg ttt ata ggt gta ggt gtt gca ccc act aat gag att tac act        336
329 Gly Leu Phe Ile Gly Val Gly Val Ala Pro Thr Asn Glu Ile Tyr Thr
330              100                 105                 110
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VERIFICATION SUMMARY
PATENT APPLICATION: US/09/808,898

DATE: 04/02/2001
TIME: 10:54:57

Input Set : A:\128seq.001
Output Set: N:\CRF3\04022001\I808898.raw

L:14 M:270 C: Current Application Number differs, Replaced Current Application Number
L:15 M:271 C: Current Filing Date differs, Replaced Current Filing Date